REMARKS

Applicant has entered the amendments reciting that remote control includes "input-output communications" to explicitly recite that the term "remote control" includes "input-output communications." It should be understood, however, that Applicant believes that this limitation was inherent in the term "remote control" recited in the claims as originally filed. Applicant also points out that this aspect of the claimed invention is not novel because pre-configured remote control (i.e., not "on-demand") was known in the prior art. The present invention, on the other hand, is directed to providing remote control "on demand" as its basis of patentability.

Therefore, the preceding amendment is not submitted for any reason related to patentability, but is instead submitted for the purpose of clarifying the meaning of the term "remote control" as originally claimed. More specifically, Applicant intends to convey by this amendment that any type of "remote control" that includes any form of remote "input-output communications" is within the scope of the claimed invention; provided, of course, that a remote control module participating in the implementation of that capability is transmitted "on demand" over a network. Applicant has also entered a number of new dependent claims more specifically defining "remote control" to emphasize that these further limitations are not to be read into the broader claims, and in particular the independent claims, from which they depend.

Prior to examination, Applicant submitted an IDS disclosing a number of references that were not before the examiner during the examination leading to the issuance of the original patent, including "The Java Language Environment, A White Paper" by James Gosling and Henry McGilton (Java White Paper). The only basis of rejection stated in the Official Action is alleged obviousness under 35 USC § 103 based

on a combination of the Java White Paper and a document entitled X Over the Web by Daniel Dardailler. The X Over the Web reference was before the examiner during the examination leading to the issuance of the original patent.

The Applicant is submitting along with this paper another IDS attaching three additional documents. The first is another copy of X Over the Web showing a publication date of July, 1995 in The X Resource (the copy submitted in the original IDS was undated but came from the same publication). The second is a copy of Embedding of X Applications by Jan Newmarch, which is referenced in X Over the Web and states that it was completed in June 1994. The third is a copy of HP SharedX: A Tool for Real-Time Collaboration published in April 1994. This third document is submitted to demonstrate that pre-configured remote control over application programs, including input-output communications but without the on-demand feature of the claimed invention, was known in the art prior to the invention date of the subject application. However, as explained more fully below, the prior art demonstrates that knowledge of Java generally, as described in the Java White Paper, combined with pre-configured remote control, as described to a limited extent in X Over the Web and to a much greater extent in HP SharedX: A Tool for Real-Time Collaboration, does not suggest on-demand remote control as claimed in the present application.

In the Official Action, the examiner contends that X Over the Web teaches a method for providing remote control of an application program but fails to show the implementation of remote control through a module transported over a network when demanded by the user. The examiner also contends that the Java White Paper teaches a program module known as a Java applet that can be downloaded and executed dynamically as the user demands. The examiner further contends that it

would have been obvious to combine these references to create the claimed invention to satisfy the desired expressed in X Over the Web to minimize the changes required to the client computer when implementing the system described in X Over the Web.

Applicant disagrees with the examiner's contention that X Over the Web teaches remote control (it only teaches a method for remote application activation, and discusses a number of problems that must be solved before a browser can be used to provide more comprehensive remote control), but points out that HP SharedX: A Tool for Real-Time Collaboration does disclose remote control including input/output control over the remote application. More importantly, Applicant disagrees with the examiner's contention that the Java White Paper in combination with pre-configured remote control suggests on-demand remote control. On the contrary, the X Over the Web document itself references "Java" but fails to combine this reference with remote control to suggest on-demand remote control. X Over the Web at p. 80 (Related Work – http://java.sun.com). Applicant submits that the explicit recognition of JAVA in the X Over the Web document, combined with its failure to suggest the invention, is very compelling evidence akin to "teaching away" that the combination of these references does not suggest on-demand remote control.

With respect to the Java White Paper, Applicant submits that this document teaches Java applets generally, and teaches that Java applets provide access to new functionalities that can be downloaded and executed on-demand without pre-installing the software. Applicant also submits that the use of Java applets to implement on-demand remote control is within the scope of the invention as defined by the pending claims, as amended. However, the Java White Paper does not describe or suggest using Java applets to implement on-demand remote control. In particular, the Java

White Paper does not by itself describe or suggest on-demand remote control at any level, and this document cannot be combined with X Over the Web to create the claimed invention because neither document teaches or suggests the use of Java or any other software infrastructure to provide on-demand remote control. Rather, the examiner's suggestion is a classic example of the use of hindsight in the obviousness analysis, which is improper. MPEP § 2143.01.

In fact, the X Over the Web document itself demonstrates that the combination of Java and X Over the Web does not provide a suggestion or motivation for on-demand remote control. Specifically, on pp. 76-77, the author observes that:

> For the embedding case, there is a clear need for support in a Web browser beyond that current case of remote execution. The problem is that this support just hasn't taken real shape yet. For instance, it would be useful to have MPEG animations rendered directly in the browser window, in the case of an IMG tag. This rendering would be handled by a separate process that is ***local to the browser*** or, in other words, by an external viewer, whose output would be redirected to the browser window, instead of being displayed in a separate top-level window. If that mechanism were in place, RX would just become another instance of an external-for-embedding viewer handling remote execution. (emphasis added)

In this passage, the author acknowledges that RX (remote execution) of applications over the Web requires that the browser be pre-configured (i.e., with a process that is "local to the browser") to provide the support required to host the application program. The author uses the example of MPEG animations rendered in the context of an IMG tag. In essence, the author observes that the browser could use this capability to support application hosting if the browser was pre-configured to do so. Of course, the particular protocol example given is just one example. The browser

would have to be pre-configured to support a wide range of application services to operate effectively in the manner suggested in X Over the Web.

In other words, on-demand remote control is a highly advantageous way to implement remote control because the class of application programs for which remote control may be requested is large and constantly changing, and the class of browsers and other systems used to control these applications remotely is also diverse and constantly changing. For this reason, provisioning the browser or other system to perform remote control for a particular application program at the time remote control is requested by downloading a remote control module over a network is a highly efficient, effective and desirable way to implement this capability. Importantly, the X Over the Web reference does not suggest this approach as a way to solve this problem, whereby the browser is configured on-demand to have the support capabilities required for the application to be controlled. Instead, it merely suggests that the browser, if properly pre-configured, could provide such services through processes "local to the browser."

Moreover, it is clear that knowledge of Java alone is insufficient to suggest on-demand remote control, because the author of X Over the Web was aware of Java, but failed to make the connection to on-demand remote control. X Over the Web at p. 80 (Related Work – http://java.sun.com). If these two references did suggest on-demand remote control as a way to solve the problems discussed in detail yet left unresolved in X Over the Web, then the author would surely have seen the connection and suggested on-demand browser configuration through a remote control module delivered over a network as a way to provide the browser with the needed support capabilities. But he made no such connection.

On the contrary, the author of X Over the Web explained in detail the problems still remaining to be resolved even after his contribution. For example, on page 77 the author stats that, "There is an entire list of technical issues relating to designing general embedding in X, such as geometry negotiation, menu inclusion, and focus and session problems. For more information about these issues, see Newmarch 95" [which is included applicant's IDS filed with this paper]. The author of X Over the Web continues in subsequent paragraphs to suggest a number of possible solutions to these problems which *do not include on-demand provisioning of the browser.* Rather, the author presumes throughout his analysis that the only way to provide browser capabilities is to pre-configure the browser to have the desired capability "local to the browser" or "natively." On-demand browser configuration is never taught or suggested.

This understanding is expressed most clearly on page 79, where the author suggests that, "In more advanced implementations, the *rx* agent work could be done by the browser, just like Mosaic and Netscape treat GIF *natively*" (emphasis added). Again, this is a suggestion that more sophisticated browsers developed in the future may come pre-configured to provide additional application support services "natively," but conspicuously fails to suggest configuring the browser "on-demand" to have the required capabilities.

Applicant also points out that, although "Java" provides the infrastructure to support on-demand delivery of executable components, it does not itself suggest any particular application of this capability, such as on-demand remote control. Again, this is illustrated very effectively by X Over the Web, which acknowledges Java but does not connect the general capabilities of Java to suggest on-demand remote control as a way to solve the problems with using a browser to control a remote application.

Accordingly, Applicant submits that on-demand remote control, as opposed to pre-configured remote control as described in the prior art, distinguishes the present invention from the systems described in X Over the Web and HP SharedX: A Tool for Real-Time Collaboration in combination with the Java White Paper. Applicant therefore submits that the preceding amendment places all of the pending claims in condition for allowance.

Applicant has also submitted a Declaration of Vincent Frese II Under Rule 1.132 to establish considerable commercial success of the claimed invention. As the examiner is undoubtedly aware, this type of objective evidence of non-obviousness must be taken into account during the examination. MPEP §§ 716.01(a) and 2141.

CONCLUSION

It is believed that the claims, as amended, are in condition for allowance for the reasons explained in the Remarks. If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment, please call Mike Mehrman at (404) 497-7400.

Respectfully submitted,

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